
Attendant and Network Wide Remote Call Forward

Prior to Release 20, the Remote Call Forward (RCFW) feature allowed a user to administer call forward from a remote set within the Meridian 1 or from outside the Meridian 1 through the Direct Inward System Access (DISA) number. The RCFW feature was not available on a network wide basis, nor was it applicable to Attendant Consoles. This enhancement introduces the RCFW feature across the Meridian Customer Defined Network (MCDN), while also providing the attendant with RCFW capabilities.

The feature capabilities of the set-based (FFC activated) network wide application of the RCFW feature match those of the current standalone RCFW feature.

The attendant RCFW functionality is controlled by a new flexible Attendant key (RFW). The attendant has the capability to view the current call forward number and determine the call forward status of any station. It is also possible for an attendant to activate or deactivate call forward for a particular station. This functionality is applicable both local within the Meridian 1 and network wide. New ISDN FACILITY messages are used to facilitate the RCFW feature operation in an MCDN.

Attendant RCFW does not require a station password to activate call forward for a station. An optional, customer-based, password can be configured for attendant operation of the RCFW feature.

Operating parameters

The network wide application of this feature is only applicable to nodes in an MCDN. The nodes in the network must be Meridian 1 switches, running a minimum of Release 20 software. No other Central Office (CO) or PBX type is supported for this feature operation.

For set-based network operation of the Remote Call Forward feature, the Station Control Password Length (SCPL) must be configured to be the same length for all nodes in the network. Attempts to operate RCFW with different SCPLs will result in overflow tone being presented to the user.

For network operation of the RCFW feature, the Private Network Identifier (PNI) must be configured consistently for all nodes in the network.

The Attendant and Network Wide RCFW features use the existing RCFW code to activate or deactivate call forward on stations. As such, all limitations applicable to the local RCFW feature are applicable to the network and attendant operation of the feature.

As the Swedish CD Attendant Console does not support alpha characters, the “PWD” prompt is not displayed on the console’s digit display when a password is required. The indication that a password is required is limited to the winking RFW key lamp.

Feature interactions

Outpulsing of Asterisk and Octothorpe (OAPO)

If the OAPO package is equipped, the “#” will be treated as any other dialed digit and will not be used to signal end of dialing. The end of dialing digits to be used are defined in LD 15.

BRI

Since ISDN BRI sets do not support Flexible Feature Codes (FCCs), Remote Call Forward is not applicable to BRI sets.

Multiple Appearance DNs

The RCFW feature only applies to the primary appearances of Multiple Appearance DNs, and it is recommended that only one appearance of a Multiple Appearance DN be configured as the prime DN.

Network operation of the RCFW feature simply provides network access to the standalone RCFW feature, therefore the requirement that only one prime DN per Multiple Appearance DN also applies to the network-based RCFW feature.

However, with the standalone set-based RCFW feature, there is no code in place to explicitly prohibit the configuration of Multiple Appearance DN's with the same prime DN and Station Controlled Passwords (SCPWs) on different stations. No code is added for the network or attendant implementation of this feature. As such, in the event that multiple stations are configured with the same prime DN, the set-based network RCFW feature operation will be the same as that for standalone RCFW feature operation.

For the case of multiple stations with the same prime DN and SCPW, the RCFW operation will apply to the station that has the Multiple Appearance Redirection Prime (MARF) assigned to it.

If none of the stations having the DN and SCPW assigned are configured as the MARF TN for that DN, the RCFA and RCFD will apply to all stations matching the DN and SCPW. RCFW will apply to the station with MADN call presentation priority (i.e., the station with the last service change is placed at the end of the list).

The attendant-based RCFW feature will only apply to remote call forward operation to the prime DN with MARF status. If the DN is not the prime DN or does not have MARF status, overflow tone will be received by the user.

Call Forward Activation from any Feature/Call Forward and Busy Status

There are no direct conflicts with either of these features and the RCFW feature.

Preventing Reciprocal Call Forward

When Preventing Reciprocal Call Forward Allowed (PVCA) is defined in LD 15, a set within the same customer configuration cannot be call forwarded to a set that is call forwarded back to it. Thus, CFW loops are prevented.

This feature applies when the CFW DN is changed by Remote Call Forward. For network operation of the set- and attendant-based RCFW features, entering an invalid CFW DN (under the rules of the PRCF feature) results in overflow tone being returned and the CFW DN being ignored.

Phantom TN

A Phantom TN does not physically exist, but can be configured with limited hardware associated with it (i.e., no sets or line cards); however, all required data blocks are configured.

The Phantom TN feature allows users to configure the CFW DN of Phantom TNs to their current location. The Phantom TN feature uses the RCFW feature to configure and activate/deactivate the CFW DN on the Phantom TNs.

As the data blocks associated with Phantom TNs match those of standard PBX sets configured within the Meridian 1, the operation of the RCFA and RCFD features on Phantom TNs is applicable to the RCFW feature. As such, the set-based local and network RCFW features can be used to configure and activate/deactivate the CFW DN of Phantom TNs.

The Phantom TN feature uses a Default Call Forward (DCFW) DN. If call forward is not active on the Phantom TN, all calls to the Phantom TN DN are routed to the DCFW DN.

The Phantom TN feature modifies the set-based RCFW feature so that if CFW is not active on the Phantom TN, and the CFW DN entered in the RCFV operation matches the DCFW DN, confirmation tone is returned to the RCFV user; if the CFW DN entered does not match the DCFW DN, overflow is returned.

This change to the set-based RCFV operation is applicable to the network RCFV operation. The operation of this feature network wide requires no changes to the ISDN message passing for the set-based network RCFV operation.

There is no Attendant RCFW operation which interacts with the DCFW DN of Phantom TNs.

Feature packaging

The Attendant Remote Call Forward (ARFW) package 253 must be provisioned to activate the Attendant-based RCFW feature.

Set-based RCFW requires the following software packages: Optional Features (OPFT) package 1; Flexible Feature Codes (FCC) package 139; and Controlled Class of Service (CCOS) package 81.

The following software packages are required for implementation on PBX sets: Special Service for 2500 Sets (SS25) package 18; and 500 Set Dial Access to Features (SS5) package 73.

For network operation the following software packages are required: Integrated Services Digital Network (ISDN) package 145; Network Alternate Route Selection (NARS) package 58; and Coordinated Dialing Plan (CDP) package 59.

Implementation

Set-based Configuration

LD 15 – Set the Station Control Password Length.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FFC_DATA	Customer data block. Release 21 gate opener.
CUST	0-99	Customer number.
...		
-SCPL	0-8	Station Control Password Length (must be consistent network wide).
...		

LD 15 – Configure a Special Prefix Number (SPRE) for the customer.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB FTR_DATA	Customer data block. Release 21 gate opener.
CUST	0-99	Customer number.
...		
- SPRE	xxxx	Special Prefix Number.
...		

LD 10 – Set the Station Control Password and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	500	Telephone type.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
SCPW	xxxxxxxx	Station Control Password (0 to 8 digits, defined in LD 15).
FTR	CFW (4)-31	Assign Call Forward DN length.

LD 11 – Set the Station Control Password and allow Call Forward.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	aaaa	Telephone type, where aaaa = SL1, 2006, 2008, 2009, 2016, 2018, 2112, 2216, 2317, 2616, or 3000.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
SCPW	xxxxxxx	Station Control Password (0 to 8 digits, defined in LD 15).
FTR	CFW (4)-31	Assign Call Forward DN length.

LD 57 – Define Remote Call Forward FFCs and set FFCT.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	FFC	Flexible Feature Codes.
CUST	0-99	Customer number.
FFCT	(NO), YES	Confirmation tone is (is not) to be given after an FFC.
CODE	RCFA	Remote Call Forward Activate.
RCFA	xx	xx = RCFA code.
CODE	RCFD	Remote Call Forward Deactivate.
RCFD	xx	xx = RCFD code.
CODE	RCFV	Remote Call Forward Verify.
RCFV	xx	xx = RCFV code.

Attendant-based Configuration

LD 12 – A new Flexible Attendant feature key, RFW, has been added to this overlay. Configuration of the key on the Attendant Console is required to allow attendant access to the RCFW feature. Configuration of the RFW key is only allowed if the ARFW package is equipped.

Prompt	Response	Description
REQ	NEW,CHG	New, or change.
TYPE	ATT, 1250, 2250	Attendant type – the RFW key can be configured on QCW4, M1250, M2250 and Swedish CD Attendant Consoles.
TN	l s c u c u	Loop, shelf, card, and unit. Card, and unit (Option 11).
...		
KEY	xx RFW	Key number assigned as Attendant Remote Call Forward key.

LD 15 – Configure the Attendant RCFW password.

Prompt	Response	Description
REQ	CHG	Change.
TYPE	CDB ATT_DATA	Customer data block. Release 21 gate opener.
CUST	0-99	Customer number.
...		
- IRFR	(NO), YES	Internal Remote Call Forward Password required.
-- IRFP	xxxxxxx	Internal RCFW Password (only prompted if the response to IRFR is YES). The password length is one to eight digits; the password is numeric only.
- XRFR	(NO), YES	External Remote Call Forward Password required.
-- XRFP	xxxxxxx	External RCFW password (only prompted if the response to XRFR is YES). The password length is one to eight digits; the password is numeric only.
...		

Feature operation

Network Wide Set-based Remote Call Forward

From the remote set dial:

- 1 FCC RCFA code.
- 2 SCPW for the set to be forwarded.
- 3 The complete DN of the set to be forwarded. This DN is the full DN required to call the set to be forwarded from the user's present location.

Expected Result: Provided everything is correct, confirmation tone is delivered to the user.

From the remote set continue dialing:

- 4 The CFW DN to be activated followed by the end of dial indicator (#).

Expected Result: Provided everything is correct, confirmation tone is delivered to the user.

Network Wide Attendant-based Remote Call Forward

From the Attendant Console, perform the following:

- 1 Press an idle loop key followed by the RFW key.

Expected Result: The RFW key is flashing and the Loop key is steady lit.

- 2 Dial the DN of the set to be forwarded.

Expected Result: If a password is required, the RFW key is winking, and the console display shows “PWD –”. If the console does not support alpha characters, the display will be blank.

If a password is not required, the console display will show the DN of the set to be forwarded followed by the CFW DN stored on that set. The RFW key lamp will display the status of the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active. Proceed to Step 4.

- 3 Dial the password followed by #.

Expected Result: The console display will show the DN of the set to be forwarded followed by the CFW DN stored on that set. The RFW key lamp will display the status of the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active.

- 4 The user can now enter a new CFW DN or press the RFW key to activate or deactivate the stored CFW DN.

Expected Result: The console display will show the DN of the set to be forwarded followed by the CFW DN. If the RFW lamp is flashing, CFW is not active; if the RFW lamp is steady lit, CFW is active.

- 5** When RCFW operation is in this state, the user has the following three options:
- Press the Release or Release Source key to terminate RCFW operation.
 - Press the RFW key to reverse the CFW status.
 - Enter a new CFW DN to begin the task of changing the CFW DN programmed. The new CFW DN is not active until the RFW key is pressed again.